



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/786,342

02/25/2004

Robert W. Byren

PD-03W088

4554

7590

01/13/2006

John E. Gunther

Raytheon Company

P.O. Box 902 (E1/E150)

El Segundo, CA 90245-0902

EXAMINER

ULLAH, AKM E

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/786,342

Applicant(s)

BYREN ET AL

Examiner

Akm Enayet Ullah

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Applicant cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Status of the Application

Claims 1- 21 are pending in this application.

If applicant is aware of any prior art or any other co- pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

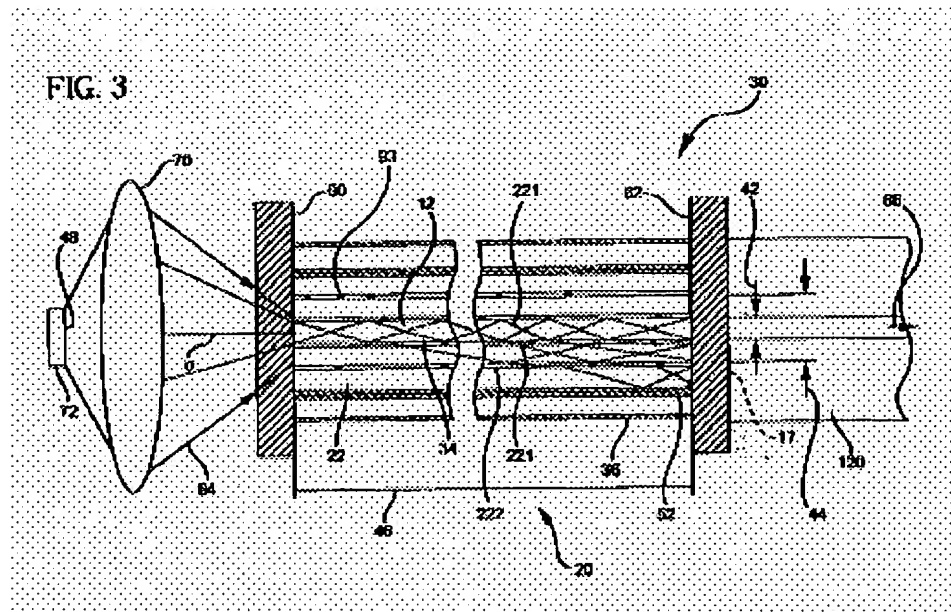
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

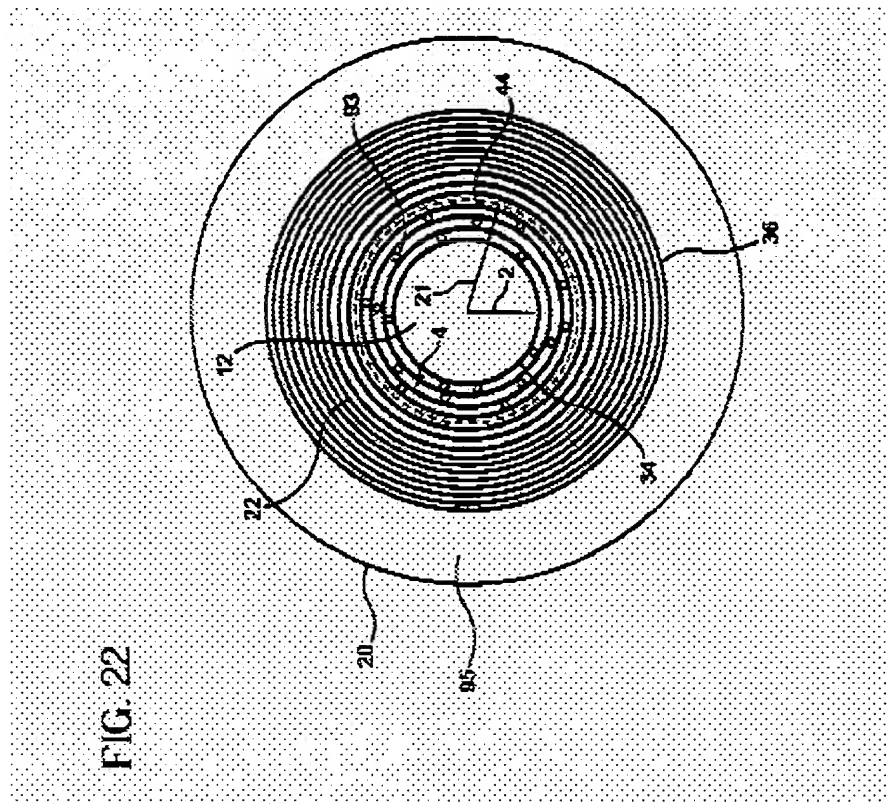
Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch et al (US publication no. 2005/0105867 A1) in view of Pranay Sen et al publication

by "Phase conjugation in magnetized semiconductors by stimulated Brillouin scattering"
dated 1996 (pp 1 - 7).



Reproduced From USP publication 2005/0105867

Koch III et al disclose an active photonic band gap optical fiber i.e., a photonic band gap light guide having core and cladding, a stimulated Brillouin scattering medium which is gas or gel or liquid or solid disposed into the light guide, a focusing lens which is adapted to focus on light guide (optical fiber), an array of channels disposed about core, the optical has a hollow core, cladding is a microstructure silica fiber and the fiber is disposed in a stimulated Brillouin scattering cell.



Reproduced From USP publication 2005/0105867

Koch, III et al fails to disclose the cladding supports guide modes through Bragg photonic band gap guidance as claimed.

The use of Bragg photonic band gap is known in this art.

Koch, III et al is the evidence that ordinary skill in the art would find a reason, suggestion or motivation to have Bragg photonic band gap guidance. One of ordinary skill in the art would found it obvious to use the Bragg photonic band gap guidance since figure 22 shows an alternative layer is in the microstructures as a Bragg photonic band gap fiber.

It is noted that applicant has not described such (Bragg photonic band gap guidance) as being critical or yielding unexpected benefits. Certainly a person of ordinary skill in the art would find it beneficial to achieve a stimulated Brillouin scattering phase conjugate mirror by utilizing Bragg photonic band gap guide. The use of a phase conjugate mirror having a stimulated Brillouin medium disposed in operational to light guide is very well known in this optical waveguide art as is evidence by Sen et al.

One of ordinary skill in the art would have found it obvious to use the phase conjugate mirror having a stimulated scattering medium disposed in operational relation to light guide in Koch, III et al since Sen et al has the ability to reduce the threshold power requirements significantly to enhance the efficiency and improve the phase conjugation fidelity of the Brillouin process.

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Cited Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fink et al (USP NO. 6,433,931) is cited to show the use of various polymeric photonic band gap materials.

Fajardo et al (USP Pub. no. 2003/0231846) and Beeson (USP NO. 6600597) are cited to show a typical microstructured optical fiber and a photonic crystal gain medium respectively.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akm Enayet Ullah whose telephone number is 571-272-2361. The examiners can normally be reached on Monday through Wednesday from 5:30 am to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick, can be reached on Monday through Friday whose telephone number is 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 2874


published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).


Akm Enayet Ullah
Primary Examiner
Art Unit 2874

Aullah

January 09, 2006